

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Dhuler

Serial No.: To Be Assigned (Continuation of SN 09/383,053)

Filed: Concurrently Herewith

For: MICROELECTROMECHANICAL DEVICE HAVING SINGLE
CRYSTALLINE COMPONENTS AND METALLIC COMPONENTS

June 26, 2001

BOX PATENT APPLICATION
Commissioner for Patents
Washington, DC 20231

PRELIMINARY AMENDMENT

Sir:

Applicant provides the present Preliminary Amendment to cancel the claims which correspond to claims that were allowed in the Notice of Allowance mailed April 26, 2001 in the parent case of the present application.

In the Specification:

Please replace the title on page 1 and page 27 as follows:

--MICROELECTROMECHANICAL DEVICE HAVING SINGLE
CRYSTALLINE COMPONENTS AND METALLIC COMPONENTS--

Please insert the following paragraph on page 1 following the title.

--RELATED APPLICATIONS

The present application is a continuation of United States Patent Application Serial No. 09/383,053, filed August 25, 1999 and entitled
MICROELECTROMECHANICAL DEVICE HAVING SINGLE CRYSTALLINE
COMPONENTS AND METALLIC COMPONENTS--

In the Claims:

Please cancel Claims 3-5 without prejudice.

Please cancel Claims 12-34 to conform this case with the election made in the parent application and without prejudice to the filing of a divisional application.

Please cancel Claims 37-39 and 41 without prejudice.

Please add the following new claim:.

--44. (New) A microelectromechanical device according to Claim 35 wherein the microactuator is configured to move between an actuated and unactuated position substantially within the plane of the microactuator and the at least one metallic structure.--

REMARKS

Applicant provides the present Preliminary Amendment to (i) cancel the claims which correspond to claims that were allowed in the Notice of Allowance mailed April 26, 2001 in the parent case of the present application, (ii) cancel the claims which were canceled in the parent application responsive to a restriction requirement to conform this case with the election made in the parent application without prejudice to applicant's right to file a divisional application and (iii) to amend the specification to expressly make reference to the parent application and to conform the title with the amendments to the title made during prosecution of the parent application.

To expedite prosecution in this case, applicant will further address issues raised in the Official Action of March 1, 2001 in the parent application.

Claims 1 and 35 Are Patentable Over Carr

Claims 1 and 35 stood rejected in the parent application under 35 U.S.C. § 102 as anticipated by United States Patent No. 5,796,152 to Carr et al. ("Carr"). Applicant submits, however, that Claims 1 and 35 are patentable over Carr as Carr does not disclose or suggest a microactuator "comprised of a single crystalline material" as recited in each of these claims.

More particularly, Carr describes a microcantilever 52 where "continuous film 54 is P-doped amorphous silicon" or where "film 54 comprises a P-doped polysilicon material" coupled to a "monocrystalline silicon substrate 50." (Carr, Col. 4, lines 14-37). The microcantilever 70 of the embodiment of FIGS. 5 and 6 also includes a film 54 which appears to be the same non-monocrystalline structure as in the embodiment of FIG. 4. Thus, Carr does not disclose or even suggest the "single crystalline

material" structure of a microactuator as provided by the present invention. Accordingly, Claims 1 and 35 and the claims which depend therefrom are in form for allowance.

New Claim 44 is Patentable Over Carr

New Claim 44 is patentable based on its dependence from patentable Claim 35 as discussed above. Furthermore, Claim 44 is separately patentable based on the recitations found therein. In particular, the movement of the microactuator, as recited in Claim 44, between the actuated and unactuated position, is "substantially within the plane of the microactuator and the at least one metallic structure." This is illustrated, for example, in FIG. 2E where the actuator member 26 moves horizontally as drawn in the figure substantially without vertical displacement. In contrast, as best shown in Figures 7a to 7e of Carr, both vertical and horizontal movement of the microcantilever 52 occur during movement between actuated and unactuated positions. Accordingly, Claim 44 should be allowed for at least these additional reasons.

The Double Patenting Rejections

Claims 1, 2, 6-9, 35, 36 and 40 stood rejected under the judicially created doctrine of double patenting over United States Patent No. 5,994,816 ("the '816 patent"). Claims 10, 11, 42 and 43 stood rejected under the judicially created doctrine of obviousness-type double patenting over the '816 patent in light of United States Patent No. 6,137,206 ("the '206 patent"). However, Applicant submits that the pending claims should not be rejected for double patenting for the same reasons discussed above with reference to the art rejections based on Carr and because there is no improper attempt to extend applicant's rights as the present claims could not have been presented in the '816 patent.

As with Carr, the '816 patent simply does not disclose or suggest the claimed apparatus of the present invention including a microactuator comprised of a "single crystalline material." The fact that the devices disclosed in the present application may be covered by broad claims of the '816 patent does not render the pending claims obvious or support a double patenting rejection based on the '816 patent.

Furthermore, the particulars of the pending claims are independent and distinct from the claims of the '816 patent and, in fact, contrary to the asserted basis for the double patenting rejections, they could not have been presented during prosecution of the '816 patent. Applicant respectfully submits that there is no disclosure of a "single crystalline material" actuator in Claims 1 or 16 of the '816 patent. Accordingly, these claims are also allowable without submission of a terminal disclaimer. *See*, M.P.E.P. § 804(II)(B).

Furthermore, the '206 patent also fails to support an obviousness type double patenting rejection. The previously advanced rejection failed to properly support either how the two cited patents could be combined to arrive at the claimed invention of the present case or what impetus the references provide for the cited combination. The mere fact that these patents "are from the same field of endeavor," as cited in support of the double patenting rejection previously, at most establishes that they are related art, it does not provide the required motivation to combine the references.

As described in the 35 U.S.C. § 103 context, to establish a prima facie case of obviousness, the prior art reference or references when combined must teach or suggest *all* the recitations of the claim, and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. § 2143. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. § 2143.01, citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). Evidence of a suggestion, teaching, or motivation to combine must be **clear and particular**, and this requirement for clear and particular evidence is not met by broad and conclusory statements about the teachings of references. *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Court of Appeals for the Federal Circuit has stated that, to support combining or modifying references, there must be **particular** evidence from the prior art as to the reason the skilled artisan, with no knowledge of the claimed invention, **would have selected these components for combination in the manner claimed**. *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000).

In re: Dhuler
Serial No: To Be Assigned
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Page 5

Furthermore, even if the '816 patent and the '206 patent were combined, they would not result in the present claims. If anything, the cited combination would suggest both the microactuator and the contacted "structure" be made from the single crystal material, not the recited "metallic" structure of the present claims. Accordingly, the pending claims, after entry of this Preliminary Amendment, should not be rejected under the judicially created doctrine of double patenting.

Conclusion

For the reasons discussed above in the parent case, Applicant respectfully submits that the present case is in form for allowance. Accordingly, Applicant requests allowance of the pending claims and passing this application to issuance.



20792

PATENT TRADEMARK OFFICE

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to Box Patent Application, Commissioner For Patents, Washington, DC 20231.

Michele P. McMahon

Date of Signature: June 26, 2001

VERSION WITH CHANGES INDICATED

In the Specification:

Please replace the title on page 1 and page 27 as follows:

MICROELECTROMECHANICAL DEVICE HAVING SINGLE
CRYSTALLINE COMPONENTS AND METALLIC COMPONENTS [AND
ASSOCIATED FABRICATION METHODS]

Please insert the following paragraph on page 1 following the title.

--RELATED APPLICATIONS

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position substantially within the plane of the microactuator and the at least one
metallic structure.--

END